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RECENTLY PUBLISHED RESEARCH OF THE STATE PEDAGOGICAL INSTITUTE imeni V. I. LENIN, MOSCOW, USSR

"Effect of Veratrine on Isolated Tetanic Contraction. Correlation between the Supernormal Phase and Isolated Tetanic Contraction," A. I. Damrin, O. G. Korenevskaya, State Pedagog Inst imeni V. I. Lenin

"Byull Eksper Biol i Med" Vol 21, No 3, 1946, pp 31-4

In experiments on nerve-muscle preparation of the frog, veratrine in concentrations of 1:1000 to 1:100,000 produced isolated tetanic contractions which after 5-40 minutes (depending on the concentration) began to increase in height and in duration, and reached their maximum development in 30 minutes to 2 hours. The increase in tetanus under the influence of veratrine is not followed by significant changes in the excitability of the nerve; all other known agents causing increased tetanus decrease its excitability. This fact indicates a connection between tetanus caused by veratrine poisoning of the nerve and the increase in its supernormal phase of excitability also caused by veratrine.

"Absorption Spectrum of Hemoglobin in Solution and in a Suspension of Red Corpuscles," A. A. Il'ina, Kh. M. Rav-ikovich, E. L. Rubinshteyn, E. V. Shpol'skiy, Optical Lab, State Pedagog Inst imeni V. I. Lenin

"Compt Rend Acad Sci URSS" Vol 48, 1945, pp 323-28

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Spectrophotometric arrangements used by others and those by the authors using cells which could not be brought up close to the back of the cuvette had shown that the gamma or Soret absorption band, normally found at 410 to 420 mμ in the absorption spectrum of free hemoglobin and many derivatives, is not to be found in that of whole blood or suspensions of red corpuscles. A Se photoelectric cell was attached by its sensitive flat surface to the back of the plane parallel quartz cuvette, and the image of the slit was brought to a sharp focus on the front face. By means of this apparatus the band was observed with nearly the same intensity in the absorption spectra of whole blood and suspensions of separated and washed red corpuscles before and after laking. Thus the previously observed disappearance of this band is due to an effect of the scattering of the light by the suspended red corpuscles.

"Action of Acethylocholine on the Heart," E. B. Babskiy, E. A. Ryauzova. State Pedagog Inst imeni V. I. Lenin, Moscow

"Byull Eksper Biol i Med" Vol 18, No 4/5, 1944, pp 43-5

In one series of experiments the isolated heart of a frog was perfused by the Straub method (a cannula was inserted through the aorta into the ventricle). The solutions of acetylcholine acted only on the muscles of the ventricle. In these experiments only the negative inotropic effect, not accompanied by slowing of the rhythm, was observed. In another series of experiments, the cannula was introduced into the right auricle; the solution acted on all elements of the heart. In this case negative inotropic and negative chronotropic effects were observed.

"Electrotonic Changes of Activity of Cholinesterase in the Nerve Fibers," E. B. Babskiy, P. F. Minayev, Chair of Physiol, State Pedagog Inst imeni V. I. Lenin

"Byull Eksper Biol i Med" Vol 18, No 3, 1944, pp 58-60

Frog nerve-muscle preparations were subjected by means of liquid nonpolarizable electrodes to the action of a direct current of 0.02-0.1 ma for 5-10 minutes. Acetylcholine was added to the emulsions to a concentration of 1:100,000. At the cathode the activity of the cholinesterase is decreased; at the anode it is increased. The content of unhydrolyzed acetylcholine is higher in the cathode emulsion and lower in the anode emulsion than in control emulsions. The changes in the activity of the cholinesterase may be due to the shift of ions in the nerve.

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